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THE BIOLOGICAL FOUNDATIONS OF BELIEF

DR. SCHILLER'S article on *Truth and Survival-Value*¹ illustrates a characteristic of philosophy found throughout its history, the characteristic, namely, of emphasis upon minor differences of view while important points of agreement are left unnoticed. The history of philosophy consists so largely of arguments and contradictions that philosophers easily acquire the habit of looking for disagreement rather than for agreement. My own point of view in philosophy is fundamentally much like Dr. Schiller's. I have been influenced in the development of my own ways of thinking by none more than by James, and by Dr. Schiller himself; and, though there may be unquestioned differences, as, for example, between Dr. Schiller's subjectivism and my own behavioristic views, still the habit of regarding all human questions from the biological point of view constitutes an important initial point of agreement. In Dr. Schiller's criticism² of what I have called the "pragmatic fallacy,"³ I feel that much of the difficulty and disagreement is largely verbal. Indeed, our essential agreement on an allied subject is shown in the last part of Dr. Schiller's article, where he has applied biological categories in considering the question of pessimism in a manner precisely parallel to my own treatment of this question in an article⁴ that was in press when Dr. Schiller's article appeared.

In the present paper I wish to discuss further the question of the biological foundations of human belief. My procedure will, in the main, be in exact agreement with Dr. Schiller's and with James's approach to the question of belief. The question of the relation of truth to survival-value, however, will eventually arise. As Dr. Schiller says,⁵ "The matter cries out for further investigation." In considering the matter I shall attempt to make clear the real point of difference between my own view as already stated and that of pragmatism of the Jamesian type, a type now represented by Dr. Schiller.

I

Darwinism has been one of the most fruitful sources of pragmatism. After Darwin had convinced the world that man in his

¹ This JOURNAL, Vol. XV. (1918), pp. 505-15.

² *Loc. cit.*

³ *Two Common Fallacies in the Logic of Religion*, this JOURNAL, Vol. XIV. (1917), pp. 653-60. See also *On Religious Values: a Rejoinder*, this JOURNAL, Vol. XV. (1918), pp. 488-99.

⁴ *The Biological Value of Religious Belief*, *American Journal of Psychology*, Vol. XXIX. (1918), pp. 383-92.

⁵ *Loc. cit.*, pp. 514, 15.

physical aspect is part and parcel of the animal kingdom, James extended Darwinian principles to the human mind, showing how mental processes can be understood, so far as their origin and their present operation are concerned, only when placed against an evolutionary background in which natural selection of useful variations has been a *vera causa* in the mind's development. Present-day behaviorism is one of the consistent conclusions of the biological trend in psychology which was given so strong an impetus by the publication of James's *Principles of Psychology* and other psychological treatises. It has been a short step from James's *The Child as a Behaving Organism*,⁶ for example, to Professor Watson's *Behavior*.

Many of James's later philosophical views consist fundamentally of an extension of Darwinian principles from psychology to the larger problems of philosophy; and Dr. Schiller's *Axioms as Postulates*,⁷ and some of his other writings, show as vividly as anything in the literature of pragmatism the biological point of view in relation to philosophical questions. But whereas Dr. Schiller represents a development of pragmatism in a direction that warrants Professor Perry's criticism of it as a case of "vicious subjectivism,"⁸ behaviorism may be shown to be a more logical development of James's views. So long as the mental life is regarded as somehow subjective in the literal sense of the term, a completely biological treatment of the mind is impossible. When, on the other hand, consciousness and behavior are identified, as in Professor Holt's view⁹ for example, so that to be conscious means to respond specifically to an object as the result of external stimulation, while the content of consciousness becomes the external object responded to, it becomes easy to be thorough-going in a biological account of mental life. The consciousness of man, no less than that of the amoeba, may be treated objectively, in terms of stimulus and response. Mental variations that have proved useful in the struggle for existence, and that have been preserved through the operation of natural selection, are simply, in their physical context,¹⁰ useful modes of behavior.

For behaviorism, beliefs are not subjective entities, but objective processes. A belief is an organic response. The physical presupposition of belief is a system of reflex arcs so integrated that some given assertion or proposition may be responded to positively. A

⁶ This is contained in the volume, *Talks to Teachers*, Ch. III.

⁷ Published as Ch. II. of *Personal Idealism*, edited by H. Sturt.

⁸ Cf. R. B. Perry, *Present Philosophical Tendencies*, pp. 216-217.

⁹ Cf. E. B. Holt, *The Freudian Wish*, especially the supplement, *Response and Cognition*; also *The Concept of Consciousness*.

¹⁰ See James, *Essays in Radical Empiricism*, Chs. I. and II., for an unsurpassed discussion of the distinction between the mental and the physical.

belief is an acceptance or an affirmation of a proposition, and may be either an actual response, or, in the absence of the proper stimulus, a mere organic set or disposition. Thinking, likewise, which is one of the means by which beliefs are arrived at, is not an ethereal process occurring in a vacuum, but is a process consisting of responses of the animal type. Professor Watson has discussed the thinking process in terms of implicit behavior in which incipient responses of the tongue and vocal organs play a prominent part.¹¹ Professor Thorndike has given a more extended account than Professor Watson's of the higher thought processes in terms of behavior.¹² Professor Dewey has analyzed the complete act of thought¹³ into responses which he calls, not "automatic routine habits," but "habits or reflective consideration."¹⁴ Thinking, according to Professor Dewey's analysis, consists of locating and defining a recognized difficulty, suggesting a possible solution, finding the implications of the suggested solution, and testing this possible solution, or hypothesis, through observation of the facts. These operations are all habitual responses no different in kind from the simpler animal responses. They are perfectly definite and objective, and may be treated wholly in behavioristic terms.

Belief, as I have said, consists either of an actual response or of an organic set. Belief is a positive set or response, as, for example, the belief in the Copernican theory, which manifests itself in an acceptance of the proposition asserting the theory in question. Disbelief is a negative response, a rejection. Doubt is an unstable reaction, not definitely positive or negative. A proposition, on the other hand, is not a response. It is, first of all, a group of words, which, as words, are marks on paper or sounds in the air. Words have meaning, however, which can ultimately be stated, perhaps, only in terms of universals. However this may be, a proposition, in the first place, is not psychological subject matter; and secondly, it is of propositions that truth and falsity are properly predicable. We are justified by common usage, nevertheless, in speaking of true and false beliefs. A true belief is really a positive reaction to a true proposition. A false belief is primarily a positive reaction to a false proposition, though a negative response to a true proposition would be the equivalent of a false belief.

¹¹ J. B. Watson, *Behavior*, pp. 18, 19, 324-28.

¹² E. L. Thorndike, *Educational Psychology*, Vol. II.; *The Psychology of Learning*, Ch. IV., especially pp. 46, 47.

¹³ John Dewey, *How We Think*, Ch. VI.

¹⁴ Cf. John Dewey, *Public Education on Trial*, *New Republic*, December 29, 1917, p. 246.

So far as questions of positivity and negativity in the behavioristic sense, and truth and falsity in the logical sense, are concerned, "belief" and "judgment" are practically interchangeable. Belief is a more sustained response, or a more permanent organic set, than judgment, but for most purposes we may use the terms interchangeably without serious error.

II

After these preliminary statements, showing the point of view from which I wish to look upon the question of belief, I am able to pass directly to a consideration of the biological grounds of some of the actual beliefs that have been held in the course of history, and that are held at the present time. I have in mind especially beliefs of a more or less philosophical and religious nature, for such beliefs have been biologically conditioned in numerous important and interesting ways.

The student of such a problem will do well to keep his own philosophic beliefs in the background as much as possible. An impartial observation of just what actual beliefs have been held is what is desired, not a criticism of these beliefs because of their possible falsity. Plato's definition of the philosopher as "the spectator of all time and all existence," the observer who is himself detached from the processes he is observing, is applicable in part to the behaviorist, whether he is studying animal behavior, the simpler human mental processes, or the more complex intellectual processes of man.

The scientific attitude is one of impartial observation of facts, whether the facts are agreeable or not to the observer; and the behaviorist attempts, first of all, to make the study of the mind scientific. The scientist, through the development of a rigid experimental method, seeks to rule out "subjective"¹⁵ preferences and to be guided by the facts as the sole test of truth. As Mr. Russell has well expressed it, "The scientific attitude of mind involves a sweeping away of all other desires in the interests of the desire to know—it involves suppression of hopes and fears, loves and hates, and the whole subjective emotional life."¹⁶

Very few persons, however, ever develop the scientific attitude in its full purity. People in general are unconsciously influenced in their decisions and beliefs by their likes and dislikes, by their "subjective emotional life." James has given classic expression to

¹⁵ The term "subjective" has a legitimate use and meaning for the behaviorist. The behaviorist should enclose the word in quotation marks, however, to indicate that he is using it in the behavioristic sense, as referring to one phase of the objective mental processes.

¹⁶ Bertrand Russell, *Mysticism and Logic*, p. 44.

this truth in his *Will to Believe*. He has asserted¹⁷ that man's passionate nature decides for him doubtful questions that bear intimately on his life. He has maintained that, even though naturalism were the true theory of things, "theism, whatever its objective warrant, would . . . be seen to have a subjective anchorage in its congruity with our natures . . . ; and, however it may fare with its truth, to derive from this subjective adequacy the strongest possible guaranty of its permanence."¹⁸ "Materialism and agnosticism," he has said, "even were they true, could never gain universal and popular acceptance."¹⁹ Not only popular beliefs, moreover, but also the views of philosophers, are in many instances determined by the "will to believe." The impersonal mathematical and laboratory methods of science can not easily be applied to the solution of the issue between idealism and naturalism, for example; and undoubtedly his inherited or acquired emotional attitude towards life has been the deciding factor in the trend of thought of many a philosopher. That the judgment of the average man, untrained in the niceties of scientific method, is influenced by desires and aversions, is so obvious that it needs only to be stated to be admitted; while James has maintained of philosophers that temperament really determines the acceptance or rejection of philosophic systems. Bradley has said similarly that the efforts of philosophers have been exerted for the purpose of finding reasons to justify what is believed instinctively.

The biological foundations of belief may be exhibited in two ways. In the first place, it may be shown in what manner some of the human instincts, which are the basis of man's emotions and desires, actually determine his beliefs. Since the instincts exist as one outcome of the biological struggle for life, so far as beliefs rest upon instincts they rest upon biological foundations. In the second place, attention may be called to the direct survival-value that beliefs possess through their "subjective" effects upon the physical economy of life.

How the instincts influence belief may be illustrated by reference to the instincts that form the "subjective" support of religious belief. The biological basis of religious belief is similar to that of a wide variety of other beliefs. I shall draw principally upon Mr. McDougall's admirable study of the human instincts.²⁰ Mr. McDougall's classification of the instincts is somewhat artificial and

¹⁷ *The Will to Believe*, p. 11.

¹⁸ *Ibid.*, p. 116.

¹⁹ *Ibid.*, p. 126.

²⁰ William McDougall, *Social Psychology*.

arbitrary. Man's nature resists any such precise analysis as he has made. His general attitude towards human behavior, however, is above criticism; and we can fall into no very serious error if we accept, for practical purposes, his list of instincts and emotions.

Mr. McDougall expresses accurately the attitude that we should take in examining the biological grounds of belief, when he says: "Mankind is only a little bit reasonable and to a great extent very unintelligently moved in quite unreasonable ways."²¹ "The truth is that men are moved by a variety of impulses whose nature has been determined through long ages of the evolutionary process without reference to the life of men in civilized societies."²²

It is impossible to maintain successfully that there is a religious instinct. Nevertheless, man's religious beliefs rest, as a general rule, upon several instincts as their necessary support. Mr. McDougall analyzes the emotional components of the religious life²³ into three complex emotions, admiration, awe, and reverence. These complex emotions, in turn, he analyzes into simple emotions, each of which is associated with one of the primary instincts. Thus he says that admiration consists of wonder and negative self-feeling, awe consists of admiration and fear, and reverence consists of awe together with the tender emotion. The simple emotions, then, which in combination are at the basis of the religious life, are: wonder, negative self-feeling, fear, and the tender emotion. Each of these simple emotions coexists with one of the following primary instincts, in the order given: curiosity, self-abasement, flight, and the parental instinct.²⁴ Even though we should not accept all the details of Mr. McDougall's rather too neat and well-ordered classification of the instincts and emotions, still we can not doubt the connection between emotions and instincts, and we can not doubt that these four instincts, and probably others, form an indispensable basis for religious belief. The possession of these instincts and emotions does not in itself constitute a man's religion. A man is not religious unless he also has a belief as to the reality of some more or less supernatural object or objects about which these instincts are united into a religious complex. But, without such instincts as driving forces in human life, religious belief would not exist among men.

Mr. McDougall's discussion of the instinctive basis of religion might well be supplemented by a greater emphasis than he places upon the instinct (or sentiment) of love in the economy of the re-

²¹ *Ibid.*, p. 11.

²² *Ibid.*, p. 10.

²³ *Ibid.*, Ch. xiii.

²⁴ *Cf. Ibid.*, Ch. iii.

ligious life. Freudian psychology explains religion as a sublimation of the sex instinct. Human love, when denied its normal human satisfaction, or else passing beyond such satisfaction, seeks and finds compensation in a religious world of the imagination (believed real, of course), a world the existence of which depends solely upon the creative power of human love. Perhaps the Freudian view seems crude and ultra-prosaic, but Freud has simply expressed in plain words what poets and philosophers have long recognized. Plato has described the truly religious love of eternal goodness and beauty as a growth out of ordinary human love.²⁵ Emerson has expressed a similar thought in reverse form in saying, "Love . . . is the deification of persons."²⁶ And Browning, most emphatically of all poets, makes human love and religion closely akin. It is a common observation that people often become religious under either one of the two following conditions. Those whose earthly love has been thwarted may turn to the religious life for its transcendent compensations. The classic case is that of the woman who withdraws from the world into a nunnery because of a disappointment in love. On the other hand, many who were not previously religious become so upon "falling in love." Then, as Emerson says, "Nature grows conscious," and the attitude of the lover towards the universe at large becomes truly religious. Even definite religious beliefs may now be adopted wholly as a result of love, which, in its origin and evolution, has been of such profound biological significance.

The instinctive basis of religious belief is simply illustrative of the biological basis of many of man's more spontaneous opinions and beliefs—the ones least subject to exact scientific verification or refutation. The conditions of man's age-long precivilized and even pre-human life, during which the primitive instincts arose and developed, probably as chance variations or mutations preserved by natural selection, or perhaps as racial habits becoming hereditary, account for the existence and permanence of many present-day beliefs.

The further fact of the direct survival-value of certain beliefs, which renders them permanent in human life, whatever may be the source from which they arise, whether it is instinctive or purely a matter of chance, has already been pointed out in other connections. Dr. Schiller's study of *Axioms as Postulates*²⁷ is a striking illustration of a biological explanation of the rise and survival of principles that have come to seem self-evident and without need of historical origin. James has spoken of the categories of our common-sense

²⁵ See *The Symposium*.

²⁶ Essay, *Love*.

²⁷ *Loc. cit.*

ways of thinking as the discoveries of "prehistoric geniuses whose names the night of antiquity has covered up," and he has given a biological explanation of the survival of these categories. Dr. Schiller has recently pointed out that the acceptance of this life as real and not a dream, the rejection of solipsism, and the denial of pessimism, all rest upon biological foundations.²⁸ In a similar manner I have discussed what I have called the (1) hygienic, (2) moral, (3) industrial, (4) scientific, (5) artistic, (6) social, and (7) legal values of primitive religious beliefs, and the (1) hygienic and (2) moral values of religious beliefs in the higher religions.²⁹ These values have all been of a fundamentally biological type.

III

Though, in the matter of explaining the genesis and the present basis of significant beliefs, especially religious beliefs, I am in precise agreement with the biological treatment accorded to the problem by such pragmatists as James and Dr. Schiller, there arise, nevertheless, differences of view that appear so striking as to have caused Dr. Schiller to single me out³⁰ as representing in my own errors two fallacies "to which all logic has habitually been addicted."³¹ Both of these fallacies attributed to me, called the *Fallacy of Ex Post Facto Wisdom* and the *Fallacy of Confounding the Persons*, have to do with the question of the relation between truth and value, especially survival-value. What I have called the "pragmatic fallacy"³² is involved in the argument. In my original definition of this fallacy I insisted that truth was a logical matter unrelated to the question of value, and that the pragmatic fallacy consisted of taking value, especially survival-value, as a test of the truth of beliefs. Dr. Schiller, on the other hand, like James in the later developments of his pragmatic views, asserts that, even though truth and survival-value are not identical, "it might become necessary to equate [them] in principle."³³

The whole question, in the last analysis, reduces largely, if not wholly, to a question of verbal usage—a question as to the application of the word "truth." I accept without reserve Dr. Schiller's account of the biological grounds of belief. I would agree that "it is even possible that ultimately and indirectly all [beliefs, though

²⁸ *Truth and Survival-Value*, loc. cit.

²⁹ *The Biological Value of Religious Belief*, loc. cit.

³⁰ This JOURNAL, Vol. XV., pp. 508-10.

³¹ *Ibid.*, p. 508. See also p. 509, where the second fallacy named by Dr. Schiller is spoken of as "very common in the traditional logic."

³² This JOURNAL, Vol. XIV., pp. 653-60; Vol. XV., pp. 488-99.

³³ *Loc. cit.*, p. 514.

not all 'truth-values'] are affected by the survival-value test.'³⁴ But I would assert that one goes contrary to established usage of the term "truth" if one asserts that the truth of beliefs is tested by their survival-value. In regard to the biological impossibility of pessimism as a permanent creed, I have expressed views,³⁵ independently of Dr. Schiller's recent account of this matter, as I have already remarked, that agree precisely with Dr. Schiller's account. That is, I have maintained that it is biologically impossible that pessimistic beliefs should survive in the race, since, for biological reasons, a pessimistic race would soon perish from the earth. But, so far as pessimism is conditioned by some disillusioning naturalistic type of philosophy, scientists and philosophers might agree that such a philosophy is true even though its acceptance were psychologically and biologically impossible for any very considerable number of people. Common sense and science assert that "truth is so," whether or not it is known by any human mind. On the other hand, pragmatism of Dr. Schiller's type asserts that truth is personal and subject to psychological and biological conditions. I would myself try to mediate between these two contrary positions. I would say that common sense and science are correct so far as the meaning of the term "truth" is concerned, for, indeed, common sense and scientific usage together determine the meaning of any term. I would also say that pragmatism is correct so far as its account of the genesis and growth of beliefs in a fundamentally biological context is concerned. But even beliefs that are universally grounded in biological needs of human nature need not thereby be true. They are believed true, of course, for to hold a belief implies believing that the first belief is true; but beliefs which were universally held might fail to satisfy the scientific test of truth if sufficiently accurate methods of scientific verification were devised.

It was recognized by Aristotle that convention establishes the meaning and denotation of words, but philosophers, more than any other class of men, have persistently erred in insisting that a given word means this or that, without asking the simple, concrete question of just what, in actual human usage, the word does mean. We may illustrate the part that human usage plays in establishing the denotation and the meaning of words by referring to the original fixing of names to objects in the growth of language, speaking, for the sake of concreteness, in terms of an incident recorded in Hebrew mythology. When Adam confronted an animal kingdom of unnamed species, the cat became a cat when he called it a cat, and in

³⁴ Schiller, *loc. cit.*, p. 514.

³⁵ *American Journal of Psychology*, Vol. XXIX, pp. 383-92.

like manner the dog became a dog. "Whatsoever Adam called every living creature, that was the name thereof." Adam did not create the animals, but he did create their names, together with the relations of reference that were involved. Adam did not judge that this animal was a cat, that, a dog, for there was no chance of his being in error. The names of the animals were a function, not of Adam's judgments, but of his acts of postulations. That is, Adam created the symbols (the names of the animals) and arbitrarily determined what the symbols should denote. I have spoken figuratively; but for Adam substitute the whole human community, for the animal kingdom substitute the entire world of objects, and the situation is not altered except in the extent of application of the principles involved.

The question of the meaning of "truth" becomes first of all the empirical task of asking just what, in popular and in scientific usage, the word is used to refer to. I submit that, in popular or common-sense usage, "truth" is thought to mean simply what is "so;" and in scientific usage, it is taken as predicable of theories, hypotheses, propositions, and assertions that conform, in a definitely recognized scientific manner, to the facts of the situations in question. Furthermore, in both popular and scientific usage, the truth is taken to be entirely independent of what anyone may *like* to believe, or of what anyone may be led to believe for "subjective" reasons. In other words, truth is depersonalized in popular and in scientific usage; truth is a logical matter and not a psychological matter.

That the unsophisticated mind thinks of truth in such impersonal and immutable terms is illustrated by the first popular response to the pragmatic theory of truth when interpreted as offering an excuse for lying.³⁶ Though pragmatism asserted that the valuable in thought and belief is the true, still the popular mind, more upright, perhaps, than the mind of the pragmatist after it had become all sicklied o'er with the pale cast of Protagorean sophistries, refused to give up its respect for genuine truth. An austere respect for truth as something independent of all personal relations to it, is well expressed by the poet when he stoically asserts,

"It fortifies my soul to know
That, though I perish, truth is so."

The scientific ideal of depersonalized truth is well expressed in the passage quoted above from Mr. Russell. Scientists endeavor to establish laws and theories which the objective facts, and the facts alone, will substantiate. Sciences succeed so far as they become

³⁶ Cf. Schiller, *loc. cit.*, p. 510.

mathematical and experimental. Personal relations of the experimenter to the processes which he is studying are not allowed to prejudice conclusions or to decide issues if it is possible to avoid such vicious influences.

One of the chief differences between the pragmatic usage of "truth" and the scientific usage of the term is presented in the example, cited by James, of the Ptolemaic *versus* the Copernican theory in astronomy. Pragmatism claims that truth is personal, and fundamentally an attribute or predicate of beliefs as psychological processes. What is believed to be true, and proves serviceable for definite reasons, is declared by the pragmatist to be true. Therefore the pragmatist asserts that the Ptolemaic theory was actually true so long as it was believed true, since the belief proved serviceable in various ways. On the other hand, those not pragmatists would say that the Ptolemaic theory never was true, since it never accurately represented the facts of the case, as has since been proved. Scientists would assert, further, only that the Copernican theory is *probably* true. It *seems* to represent the facts accurately. But, they will say, whether it is really true or not depends, not upon the mere serviceability of the belief, but upon its conformity to the facts. Perhaps, scientists would admit, no theory can ever be shown absolutely to be true, since the establishing of its truth is a human and therefore an imperfect process. Scientists will insist, however, that the truth of a theory, *if it could be known absolutely*, would be found to depend entirely upon its impersonal relations to objective facts.

Though the later developments of James's pragmatism largely obliterated the distinction between truth and value, especially survival-value, James had the scientific theory of truth still in mind when he wrote, in one of his earlier works,³⁷ "Theism, whatever its objective warrant, would thus be seen to have a subjective anchorage in its congruity with our nature as thinkers; and, *however it may fare with its truth*, to derive from this subjective adequacy the strongest possible guaranty of its permanence." Thus, according to James, though naturalism might be the *true* philosophy, in the sense of being the one that describes the facts of the universe correctly, idealistic and theistic beliefs would probably persist permanently in the minds of men because man's emotional needs determine so largely what he believes. The pragmatist would here assert that theism is true because the belief persists and "works;" but those with a non-pragmatic theory of truth would still maintain that, in the universe of discourse in question, naturalism would be

³⁷ *The Will to Believe*, p. 116. Italics not in the original.

true, even though theistic beliefs persisted and were valuable, biologically and otherwise.

In his controversy with Professor Perry, not so very long ago,³⁸ Dr. Schiller described the pragmatic theory of the meaning of truth by means of a concrete illustration. Speaking of the World War, Dr. Schiller said: "What would happen if the victors prevailed so utterly as to establish their version of the truth? Would not the divergent accounts be voted down as false? According to Professor Perry some of these deserve to be called truer, but is it not amazing that he should regard the situation as not in the least derogating from 'the theoretic truth' of the beliefs that are rejected."³⁹

On the contrary, it seems to most of us, I think I may safely say, that it would be more amazing if military victories should *always* be on the side of the truth. "Divergent accounts would be voted down as false," because they would be voted down by the victors, but is the cause that lacks military support necessarily false? Germany might conceivably have prevailed over the Allies, but would even Dr. Schiller ever have accepted as true the views for which Germany has stood? We are easily led to think that right and truth have always been on the winning side throughout military history, but one reason for thinking so may be the fact that those groups which have been victors by force of arms have been the survivors and consequently the final judges of the right and truth of the issues involved. The biological struggle for existence is the most fundamental factor in determining what social, political, and religious beliefs shall survive and be held as true, but it does not give assurance of the truth of these beliefs.

So long as one maintains the distinction which I have made between beliefs and disbeliefs as properly to be regarded as positive and negative responses to propositions, the propositions being non-psychological, and true or false according to their relations to facts external to them, there can be no possibility of committing the pragmatic fallacy. By courtesy, as I have said, we may speak of true and false beliefs and judgments, for usage justifies this; but fundamentally truth is a logical matter in which only propositions, theories, hypotheses, *etc.*, are involved, while the finding of these propositions, or the attempt to find them, and to verify them, is wholly a psychological matter, of which truth and falsity may not properly be predicated. This distinction between logical and non-logical matters, between propositions and beliefs, allows for a clear-cut distinc-

³⁸ Cf. *Mind*, N. S., Vol. XXIII. (1914), pp. 386-95; Vol. XXIV. (1915), pp. 240-49; pp. 516-24.

³⁹ *Mind*, N. S., Vol. XXIV., p. 522.

tion between the value of beliefs "subjectively" considered, and the truth of propositions objectively considered; and it conforms both to popular and to scientific usage of the word "truth."

Furthermore, so far as this distinction is made, the two fallacies which Dr. Schiller ascribes to me are seen to be inapplicable to my statements. The *Fallacy of Ex Post Facto Wisdom*, relating to "wisdom after the event," as, for example, in the case of the Ptolemaic and Copernican theories, is clearly no fallacy in the reasoning of one who separates the earlier *belief* in the Ptolemaic theory from the non-psychological aspects of the theory, and who separates the present *belief* in the Copernican theory from its logical aspects, and simply contends that the Ptolemaic theory was false, even though believed, just as the Copernican theory might now be false, even though believed. I have simply asserted that some false beliefs have had valuable "subjective" effects, in the case, for example, of religious beliefs in the course of human evolution; and in asserting this I have committed no *Fallacy of Ex Post Facto Wisdom*.

The *Fallacy of Confounding the Persons*, again, can be asserted only of those who predicate truth and falsity of psychological processes. Both popular and scientific usage, to which I have tried to conform so far as the meaning of the term "truth" is concerned, depersonalize truth; and usage of the terms as well as the facts of the situation allow one to assert of belief that a false belief, that is, an acceptance of a false proposition, may have value in case the believer is unaware of his error, because of the "subjective" effect of the belief upon the believer. For example, the belief in God might contribute to a man's happiness and morality, even though there were no God.

Finally, the pragmatic fallacy is still a genuine fallacy, committed by those who maintain that the emotional effect of a belief upon an individual, or the biological effect of a belief upon a race, is a criterion of the truth of the proposition believed.

I agree with the pragmatic description of the biological grounds of belief, but I contend that beliefs need not always be true in order to be valuable. As Mr. Rashdall has so well expressed it, "Error and delusion may be valuable elements in evolution;—to a certain extent . . . they have actually been so."⁴⁰ To say, on the other hand, that beliefs, because valuable, can not be errors or delusions, but must be true, is to commit the pragmatic fallacy.

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⁴⁰ Hastings Rashdall, *The Theory of Good and Evil*, pp. 209, 10.